

PATIENT

Coraline Perry

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Spayed female

AGE

13 years

WEIGHT

8.66 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Sonopath Imaging
Center

HOSPITAL NAME

Animal Hospital of
Sussex County

REFERRING VET

Dr. Ackernecht

INVOICE

76402

DATE

8/2/23

PRESENTING CLINICAL SIGNS

History: Elevated liver enzymes, icterus. Meds: Metronidazole; Clavamox; Prednisolone; Denamarin; Ursodiol
Abnormal PE/Chem/CBC/UA Results: ALP 334; ALT 628; TBIL 2.8; TP 8.8

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The uterine stump was slightly dilated in this patient. The clinical significance of this is unknown

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 4.01 cm. The right kidney measured 4.1 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.25 cm.

Spleen

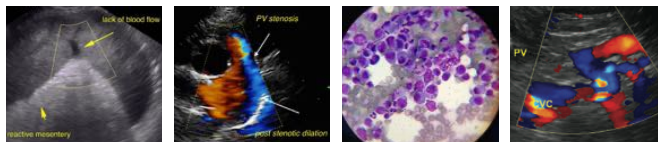
The **spleen** was mildly enlarged with scalloping contour. There was a mild amount of ascites noted in the abdomen.

Liver

The **liver** was enlarged, hypoechoic and irregular. The portal vein was congested. The gallbladder was displaced caudally. The hepatic lymph nodes were slightly enlarged and irregular. Pleural effusion was noted through the diaphragm.

Gastrointestinal

The **gastrointestinal tract** revealed minor variable thickening and echogenic submucosal changes most consistent with low grade end result of chronic GI disease such as IBD and may be related to malassimilation of nutrients if any weight loss is present. No obvious neoplastic patterns were noted and luminal content as unremarkable. Mesenteric lymph node is enlarged, rounded and hypoechoic measuring 0.8 cm. A separate mesenteric lymph node measured 0.65 cm.



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Pancreas

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The **pancreas** revealed undulating contour, hypoechoic parenchyma and a dilated duct measuring 0.26 cm. Further heterogenous changes were noted in the right and left limb.

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ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient revealed volume overload in the left and right atrium with slight pericardial and moderate pleural effusion. Mild to moderate left atrial enlargement was noted. Mild mitral insufficiency was noted. Contractility, septal and free wall thicknesses were normal. Tricuspid valvular assessment demonstrated adequate linear morphology and kinetics. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). No visible pericardial or free pleura fluid was noted or extra cardiac pathology in the visible planes. The cranial mediastinum and pericardial regions were free of masses in the visible window.

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FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		193	0.3	1.62	0.43	40	75
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT		2.0	1.9	1.01	0.75	NM	
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

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ULTRASONOGRAPHIC FINDINGS

Multi-centric lymphadenopathy.

Splenomegaly and hepatomegaly.

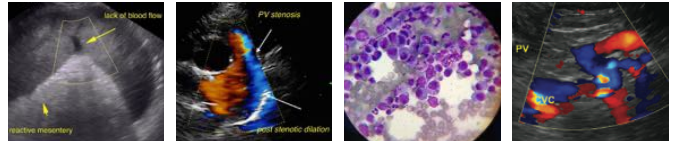
Unclassified cardiomyopathy with left-sided enlargement. However, the hepatic veins were not dilated. Therefore the ascites in the abdomen is likely owing to an infiltrative process.

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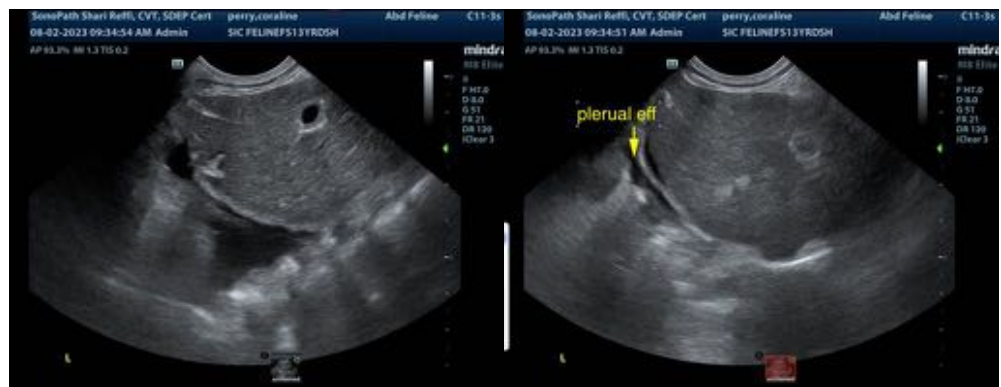
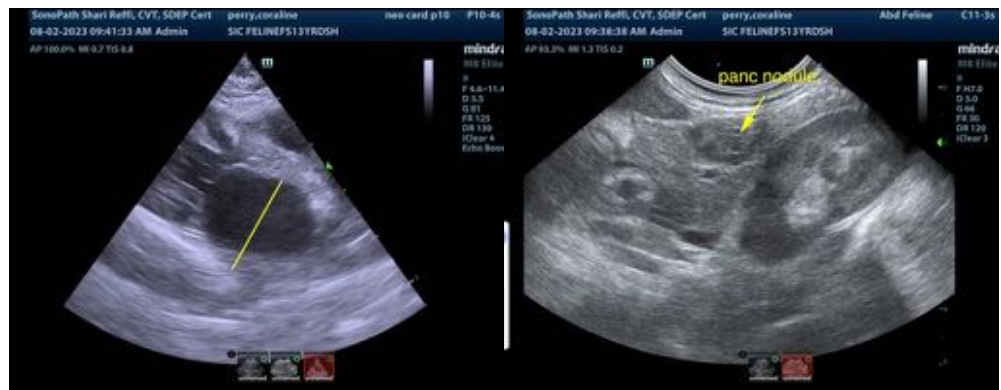
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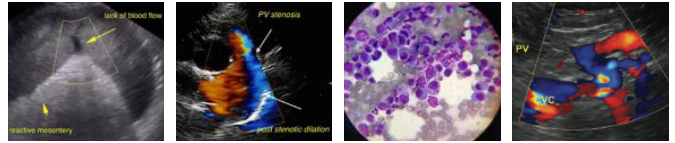
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There are two separate pathologies occurring in this patient. Both of which can cause pleural effusion. However, given the icterus and sonographic appearance of the abdomen round cell neoplasia of the spleen and liver is suspected. 25-gauge FNA of both organs is recommended +/- FNA of the mesenteric lymph nodes. The cardiac disease may be exacerbated by the systemic comorbidity. However, Lasix and Pimobendan +/- Plavix therapy would be indicated. However, I do not recommend initiating Plavix until FNA of the spleen and liver occur. Palliative pleurocentesis and cytospin of the free fluid can be considered for further diagnostic value. Prognosis is very guarded depending on cytology results.





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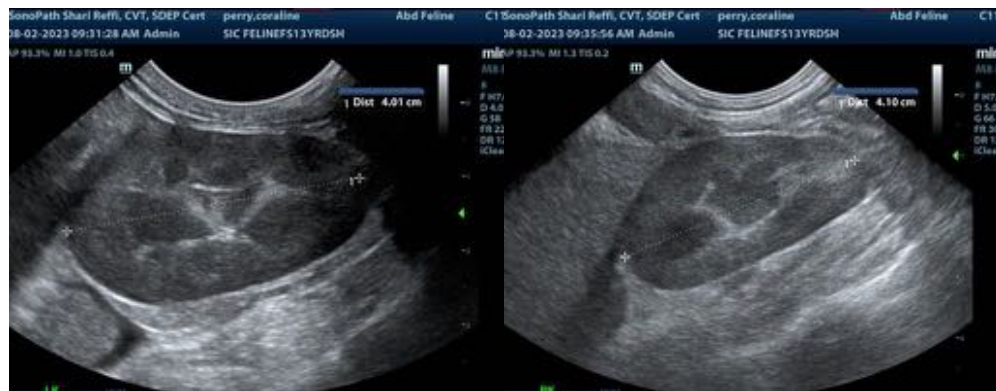
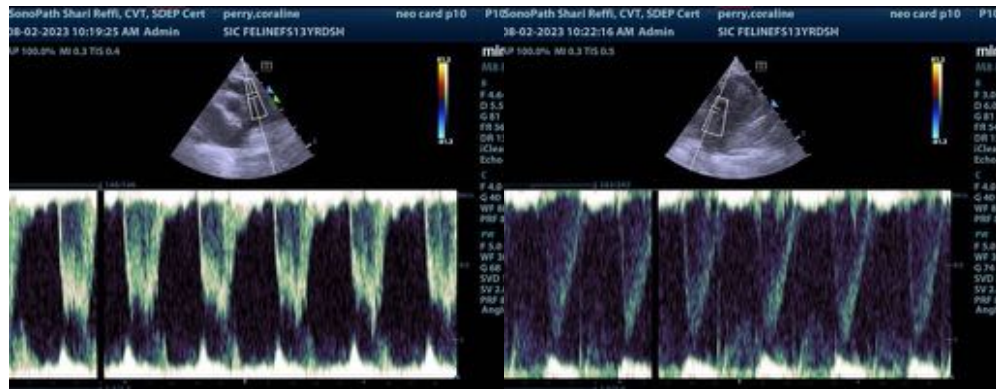
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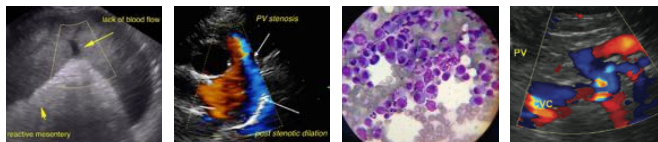
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com